

Powering a Cleaner, More Efficient Energy Future for Indiana

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Presentation to Windiana 2011
July 20, 2011

Today's agenda

- 1 GE in Indiana
- 2 US industry overview
- 3 Renewables revolution
- 4 Wind in Indiana
- 5 What's next



imagination at work

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GE in Indiana

GE Aviation:

In **Terre Haute**, GE Unison Engine Components offers comprehensive fabrication, welding, machining and heat treat capabilities for Humvee support kits, turbine exhaust ducts, and oil tanks.

Also in **Terre Haute**, GE's UNC Tri-Remanufacturing facility specializes in replacing the honeycomb seals in aircraft engines.

GE Energy - Energy Services: Indianapolis, Connersville, Fort Wayne, Evansville

GE Home & Business Solutions – Appliances & Lighting:

A **Bloomington** facility manufactures a variety of low- and mid-range side-by-side refrigerators sold primarily in the U.S. Major product lines include GE and Hotpoint.

Batesville is home to the GE Industrial Large Order Center – the largest volume distribution center for the lighting business, serving Wal-Mart, Target, Dollar General, and Kroger stores nationwide.



Employees:	1,904
2010 GE Volunteer Hours:	3,044
2010 Community & Educational Contributions:	\$1.9 million
OSHA VPP Safety Sites (2):	Batesville, Terre Haute

GE and Purdue University

Our shared commitment to innovation

- GE has more recruits from Purdue than any other university
- Some of our best and brightest talent comes from Purdue
 - Global Sales and Marketing President
 - Industrial Solutions Regional Sales Executive
 - GE Vice Chairman and GE Energy President & CEO
- Purdue Energy Park: Working together to advance the industry
 - EV WattStations™ on campus
 - Creating the *collaboratory*... collaborative innovation... building the next generation wind farm
 - Renewable energy think tank



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Uncertain Climate for US Energy...



Tail Winds

- State RPS Policies
- Improved financing environment
- WTG Technology advancing
- Improved comparable economics for wind energy



Head Winds

- Federal policy uncertainty leads to highly uncertain prospects for 2013
- Limited need for new electricity capacity to meet demand
- Low natural gas and wholesale power prices
- Inadequate transmission infrastructure

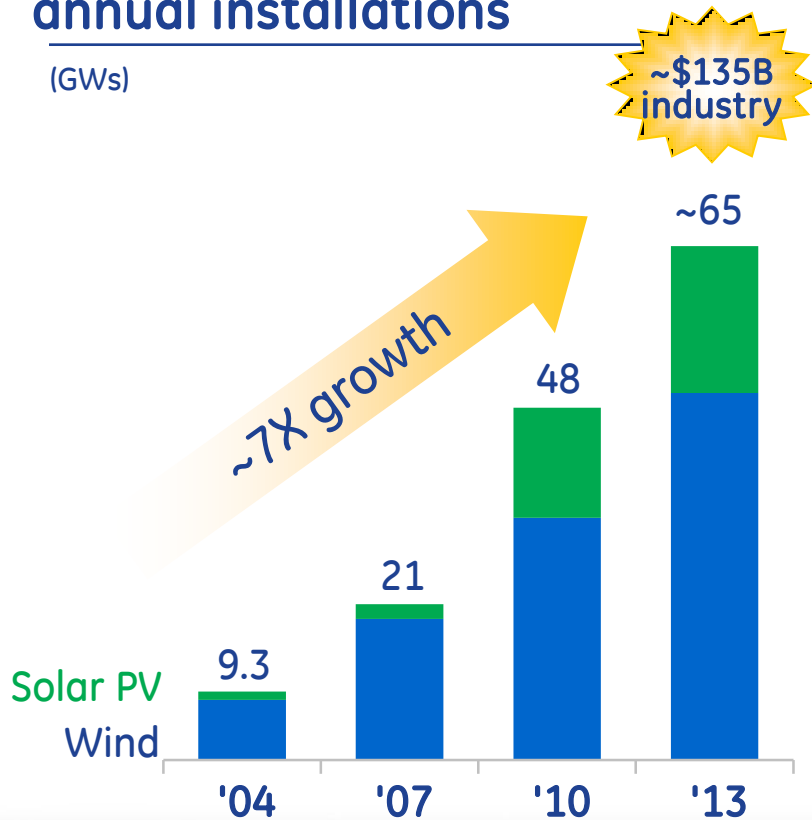
US wind outlook mixed...

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The global renewables revolution

Global Wind and Solar PV annual installations

(GWs)



Source: GE Marketing, EER & Navigant Consulting

Mega-trends

- Wind cost: ↓ 80% last 25 years
- Solar cost: ↓ 70% last 3 years
- Global renewables <4% ... 20% targets
- 1 pt = ~40,000 more wind turbines
- 1 pt = ~600,000,000 more solar modules

GE advantage

- Technology leadership
- Reliability and fulfillment
- Capital efficient business model

Industry challenges

- Excess capacity
- Policy risk (U.S.)
- Tech differentiation a must

Challenging near term ... premium on product differentiation

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GE Renewables ... last few years



Built more efficient, more reliable wind turbine fleet

- 17,000+ units ... 27GW+
- 98%+ availability ... ↑13 pts
- Energy capture ↑40%
- \$30B GE revenue since '03



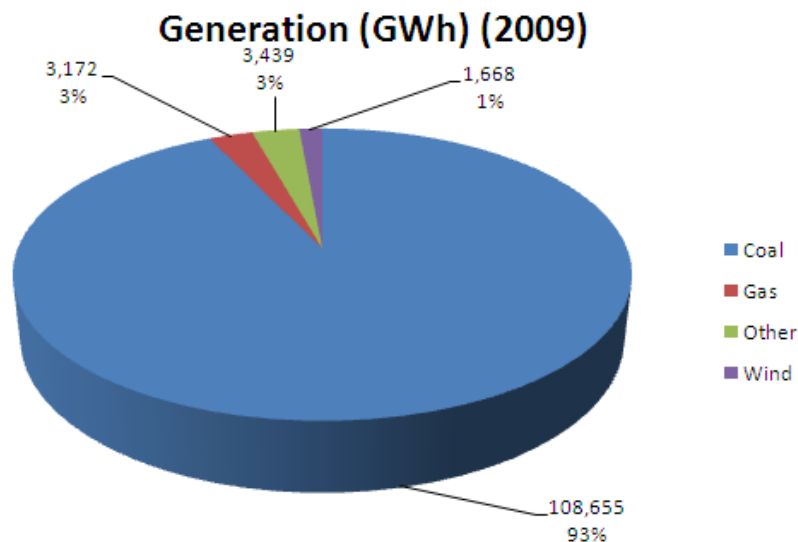
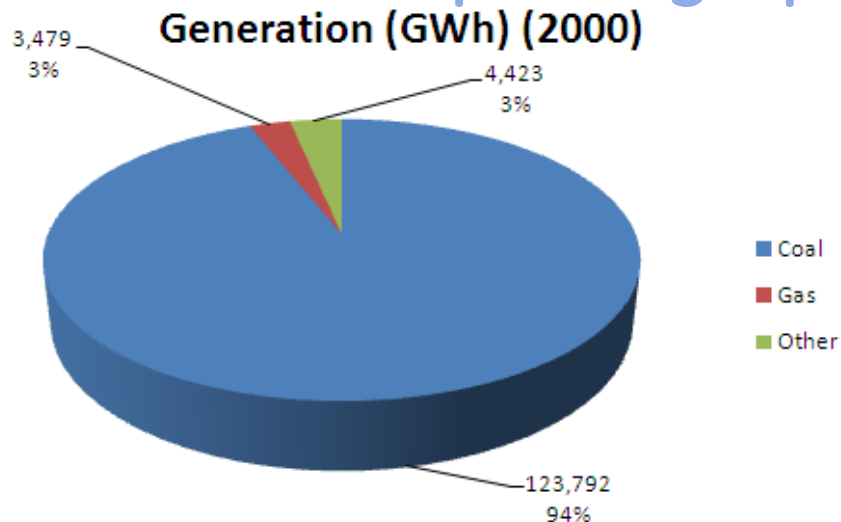
Invested in solar to grow

- \$250MM R&D
- 300+ dedicated solar employees
- 250 scientists ... 100 PhDs
- 30MW pilot mfg. line ... 10 global test sites

Delivering lower cost of energy solutions

Wind in Indiana

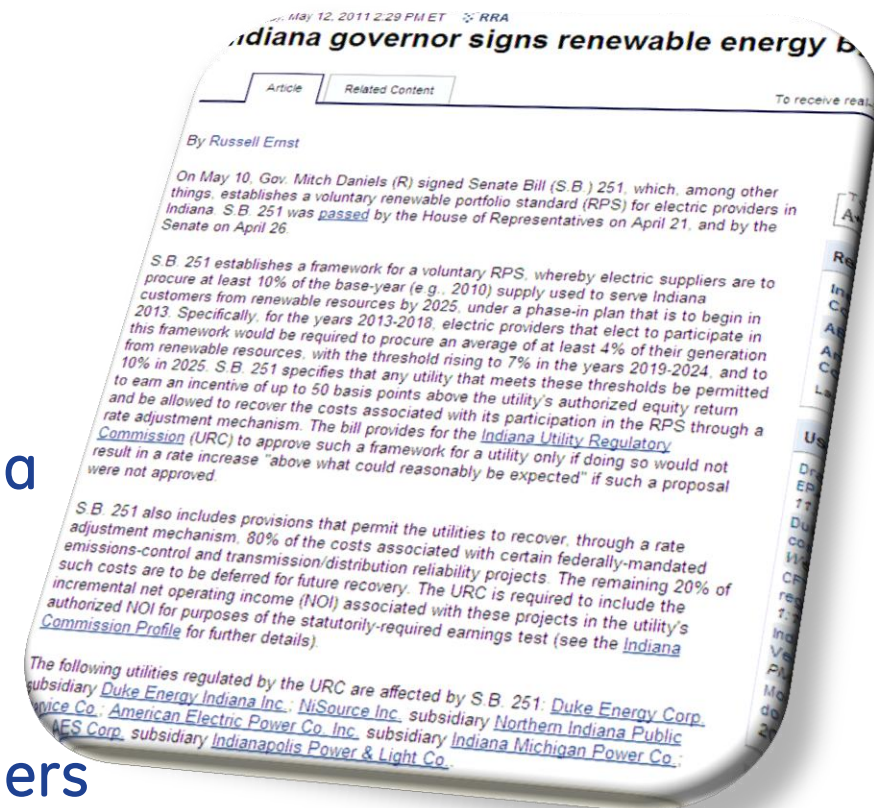
Slow start... picking up speed



- Ten-fold increase in installed wind capacity in 2009-10
- Second only to Texas in 2009 for new capacity additions
- If fully developed, wind could provide more than 400% of state's current electricity needs
- 2,000 wind-related jobs created in 2010
- Avoids 2.3 million metric tons of carbon dioxide annually
- 14 local facilities manufacture wind energy components

Indiana RPS... SB 251

- Signed by Governor Mitch Daniels (R) May 11, 2011
- Voluntary, non-binding
- 10% by 2025
- Partial cost recovery allowed via Rate adjustments
- Affected Utilities: Duke, AEP, Indianapolis Power & Light, others



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Indiana Wind Successes

- State is home to **four utility-scale farms**
 - Hoosier Wind Project (106 MW)
 - Goodland Wind Plant (130 MW)
 - Meadow Lake Wind Farm (200 MW)
 - Fowler Ridge Wind Farm (600 MW)
- **2,000 people hired** during construction; 85 permanent jobs
- Energy **investment for the four projects was \$2B**
- Over **500 landowners** participate, annual lease payments between \$5K - \$9K/turbine.
- **11 Wind manufacturing facilities**
- State estimated to have **40 GW of harvestable wind***
- Despite absence of State RPS, Indiana **surpassed 1GW** mark **in '09**, most of off-take targeted for compliance in PJM States.

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What's next?



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Investing in Renewable Energy

Wind acquired assets in '02

- ~1 out of every 2 turbines in the U.S. is GE ... 17,000+ units installed base
- Caithness and CEZ (Romania) ... largest wind farms in U.S. and Europe

Solar equity investment in '07

- Thin film efficiency leadership
- Complete utility scale solution
- Invested \$250MM+ in R&D to lead

Jenbacher investment in '03

- 10,000+ engines delivered in more than 80 countries ... 12.5GW
- Fuel flexibility: renewable and alternative gases

Energy Financial Services

- Developing creative financial solutions
- 25+ years in Energy Finance
- \$20B assets, renewable portfolio ~\$5B

< \$1B M&A + \$2B GE R&D ... delivered \$35B+ revenue

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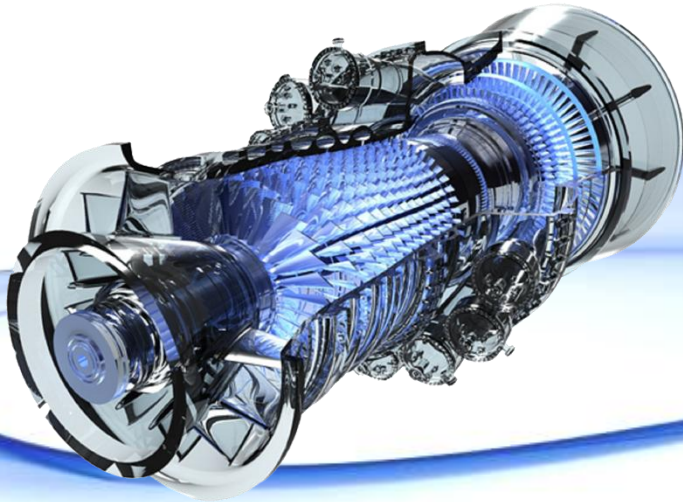
Wind



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Accommodate to embrace

Expanding synergies between gas and renewables



Technology

- Grid-friendly wind plant with high availability
- Development of flexible gas fired generation
- Storage projects
- IT and communication infrastructure

Grid operations

- Understanding impacts of variable generation
- Emergence of wind grid codes
- Evolution of wind and solar forecasting

Growth for the next decade

Wind



Offshore

- 50GW+ of announcements '15-'25 ... <2% of global installs today
- Scanwind acquisition '09 ... GE technology improved yield 40%
- Built for offshore ... 4.1-113 direct drive
- Investing \$400MM+ to lead

Solar



Invested in solar to lead

- 75GW+ opportunity over next 5 years
- Thin film efficiency leadership
- Smarter grid integration, utility scale solutions
- Invested \$250MM+ in R&D

Source: GE Energy marketing

Technology differentiation ... to deliver lower cost of energy solutions

Thin Film Solar



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Driving solar R&D into business results

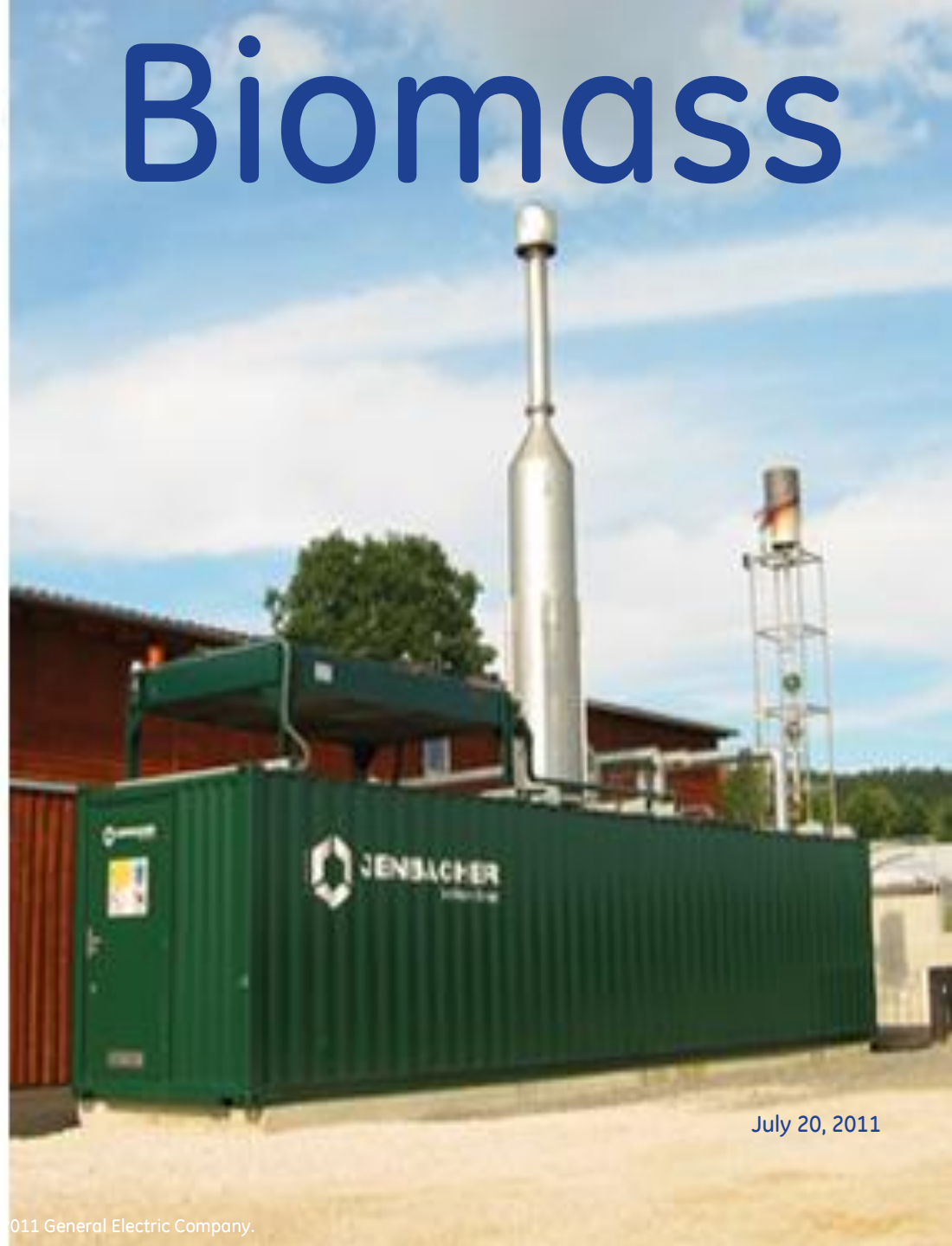
Positioned for growth

- Highest recorded thin film solar efficiencies
- 400MW U.S. solar factory announced
- New commercial agreements for 100MW+ of solar thin film products
- Announced acquisition of PrimeStar & Conwerteam

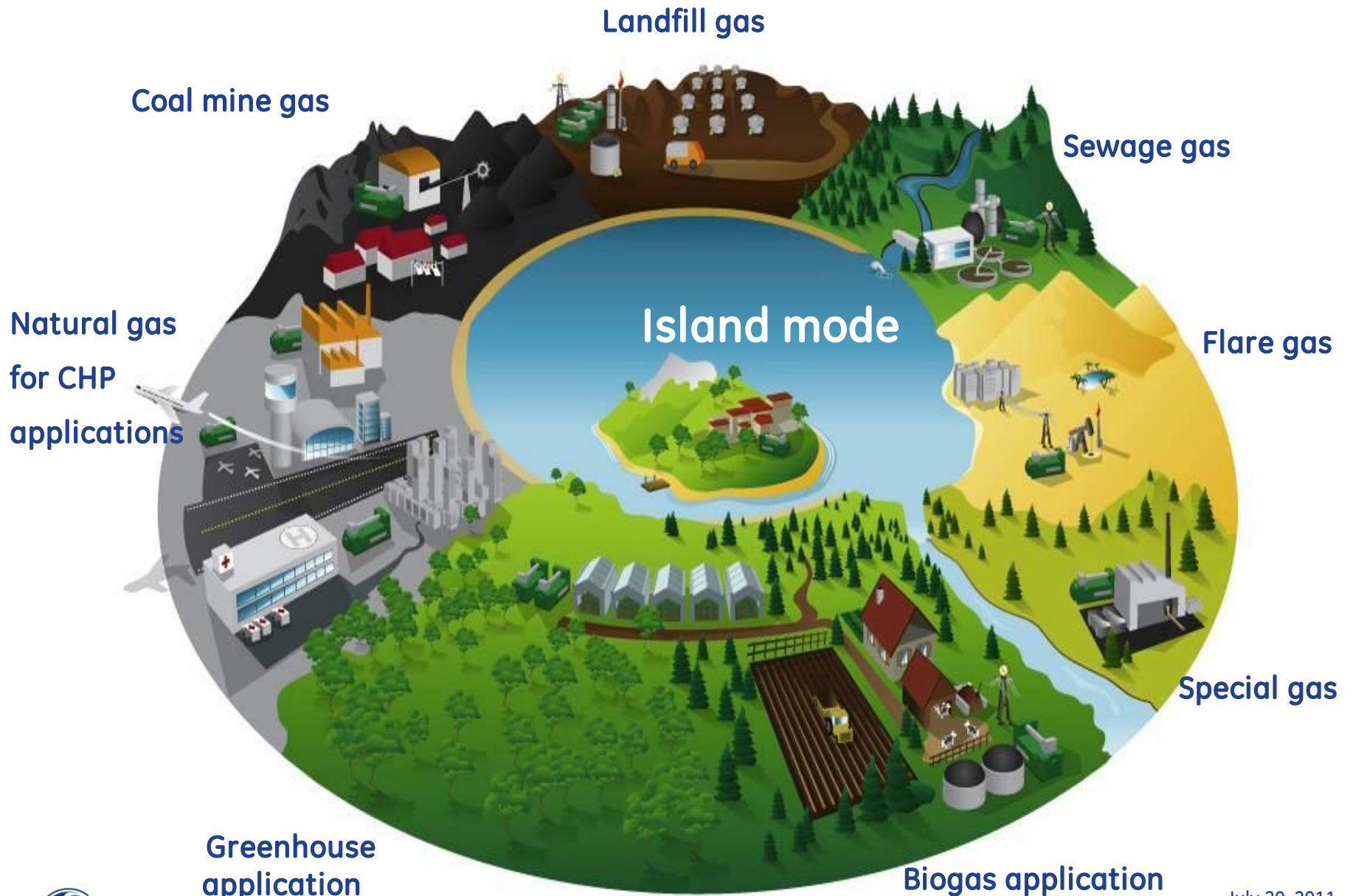
Solidifying GE's position of excellence in the Renewable Energy Industry



Biomass



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Our shared responsibility

Moving the industry forward

- Creating jobs
- Retaining America's global competitiveness
- Reducing our carbon footprint
- Ensuring a cleaner energy future



None of it is possible without
supportive energy policies



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